

***SFA Modernization Partner***

**United States Department of Education**

**Student Financial Assistance**



**EAI Quarterly Services Report**  
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# 1 Introduction

## 1.1 Summary

This report documents the progress made for EAI Release 3.0 (Task Order 80) since the beginning of the Task Order (November 1, 2001-December 21, 2001). In addition, it includes an overview of the current EAI Core Architecture, a Software Installation Report, materials presented at EAI workshops held during this period, and an organization chart and contact list for the EAI team.

Task Order 80 implements additional technical services, maintains the existing architecture, and provides assistance to business application teams in using EAI Core Architecture services. The long-term vision of SFA's EAI is to enable business applications to integrate/communicate with back-end systems via common, reusable services provided by EAI.

This report covers the following activities of the EAI team:

- EAI Architecture Overview- Provides an up-to-date view of the EAI Architecture as it evolves over the duration of the task order.
- EAI Core Services – Provides new infrastructure products, upgrades to existing products, and development of reusable practices for naming and programming standards.
- Development Integration Services - Provides guidance and support to application teams utilizing the capabilities provided by the EAI Core Architecture.
- Build and Test of Adapters and Components –Provides new adapters for additional SFA systems that have enterprise applications and data, and a component library containing reusable EAI components and functions.
- Software Installation Reports- Documents status of newly acquired software.
- Communication – Facilitates the communication of the EAI strategy to all SFA Operating Partners and stakeholders through EAI Workshops and Monthly Integration Meetings.



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## 2 EAI Architecture Overview

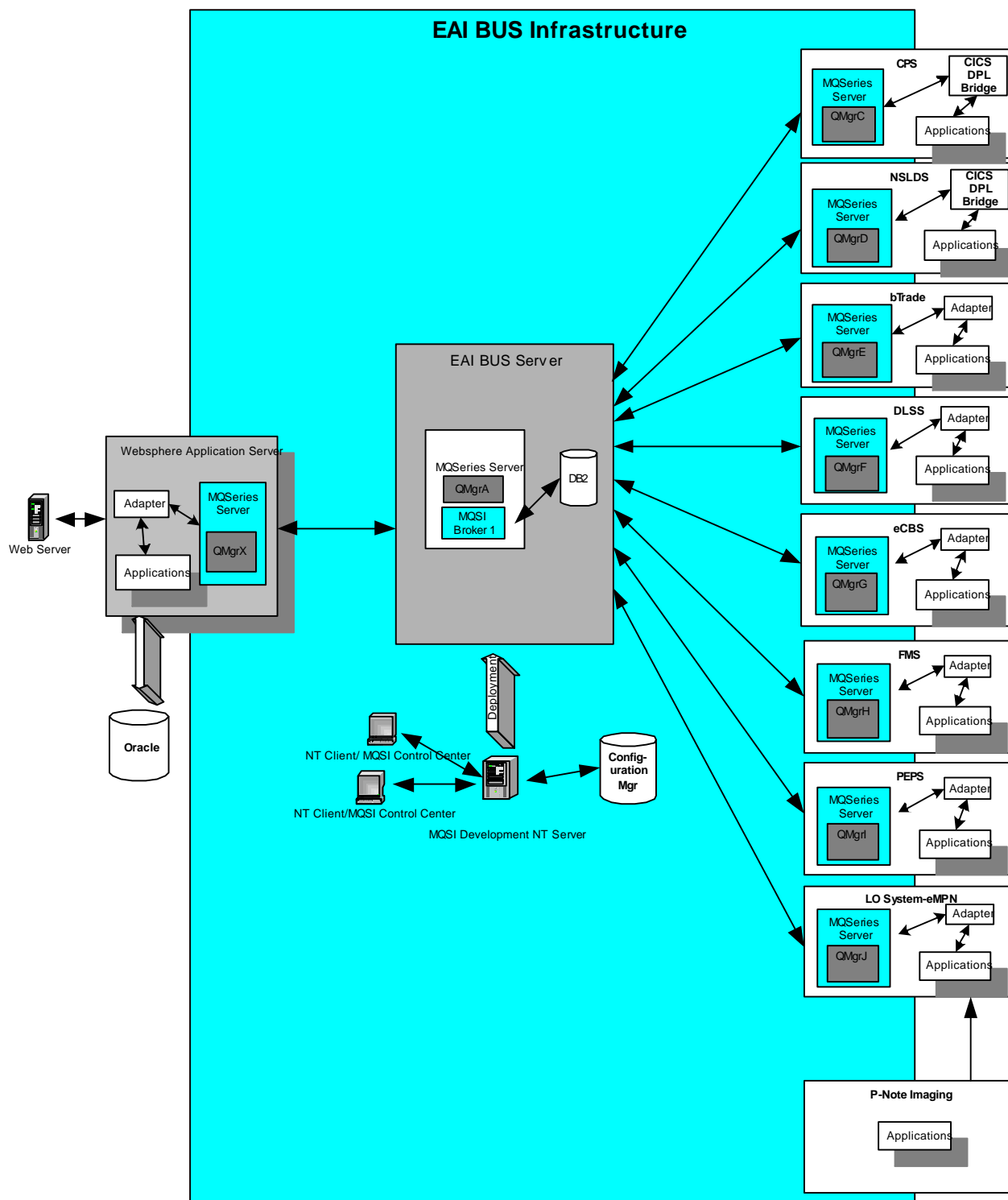
This section provides an overview of the EAI Architecture, including Release 1 and 2 legacy systems, interfaces to the legacy systems, and interfaces to SFA's Integrated Technical Architecture (ITA).

The SFA Enterprise Application Integration Core Architecture consists of the following four primary areas:

- Legacy Systems – Mainframe and Mid-Tier
- Internet – Websphere Application Server
- EAI Bus Servers
- EAI Development Workstations

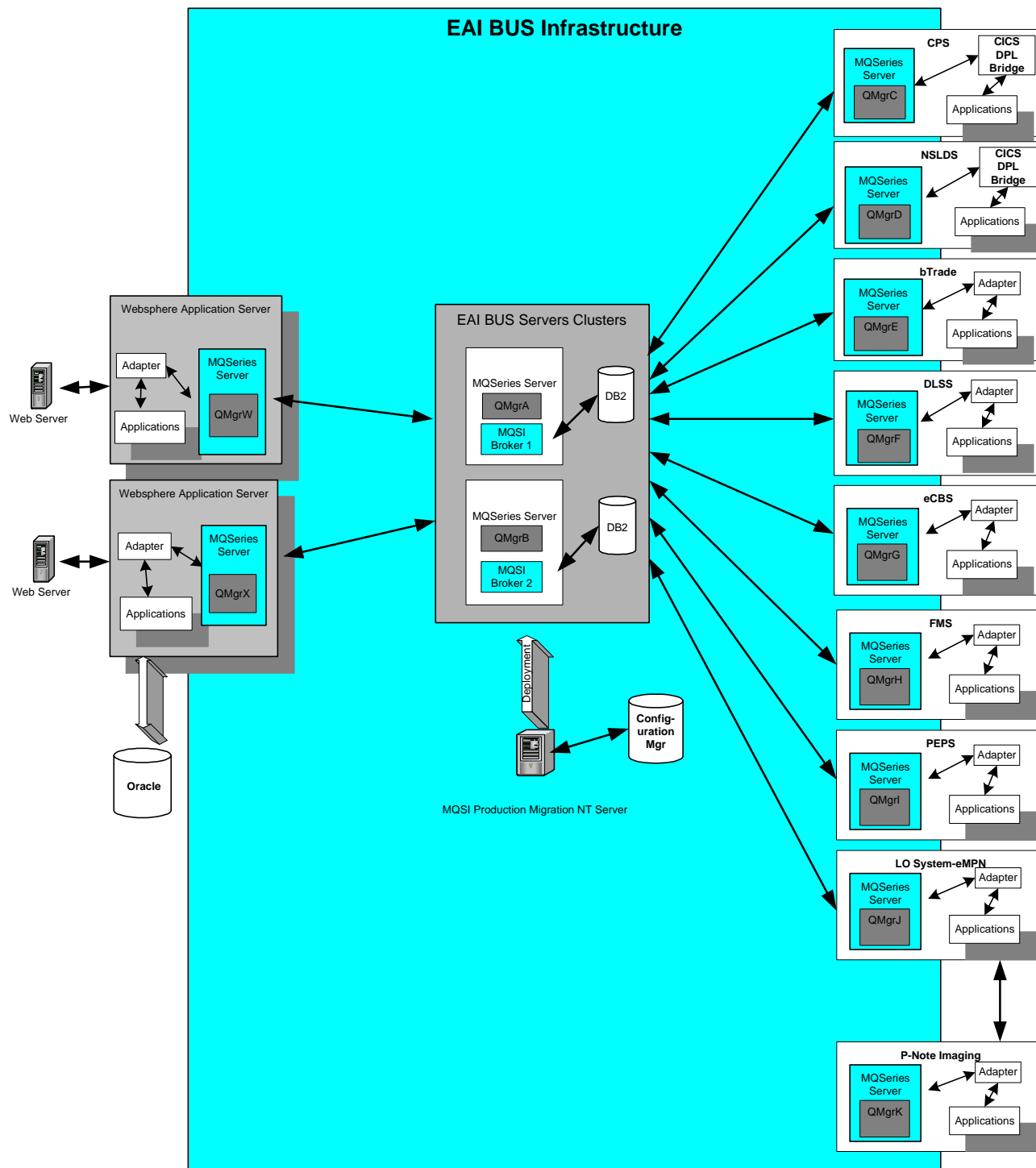


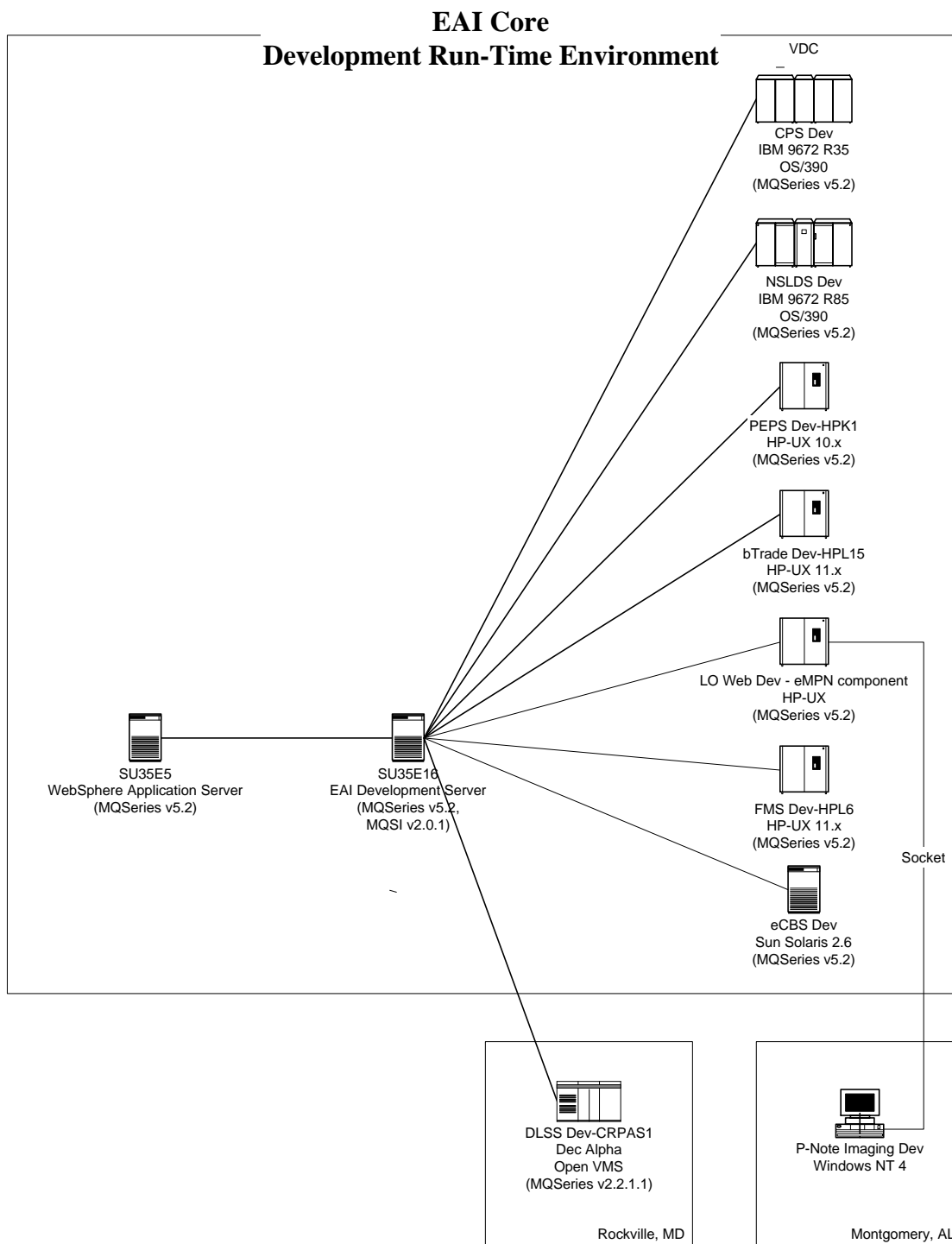
## EAI BUS Architecture Overview (Development)

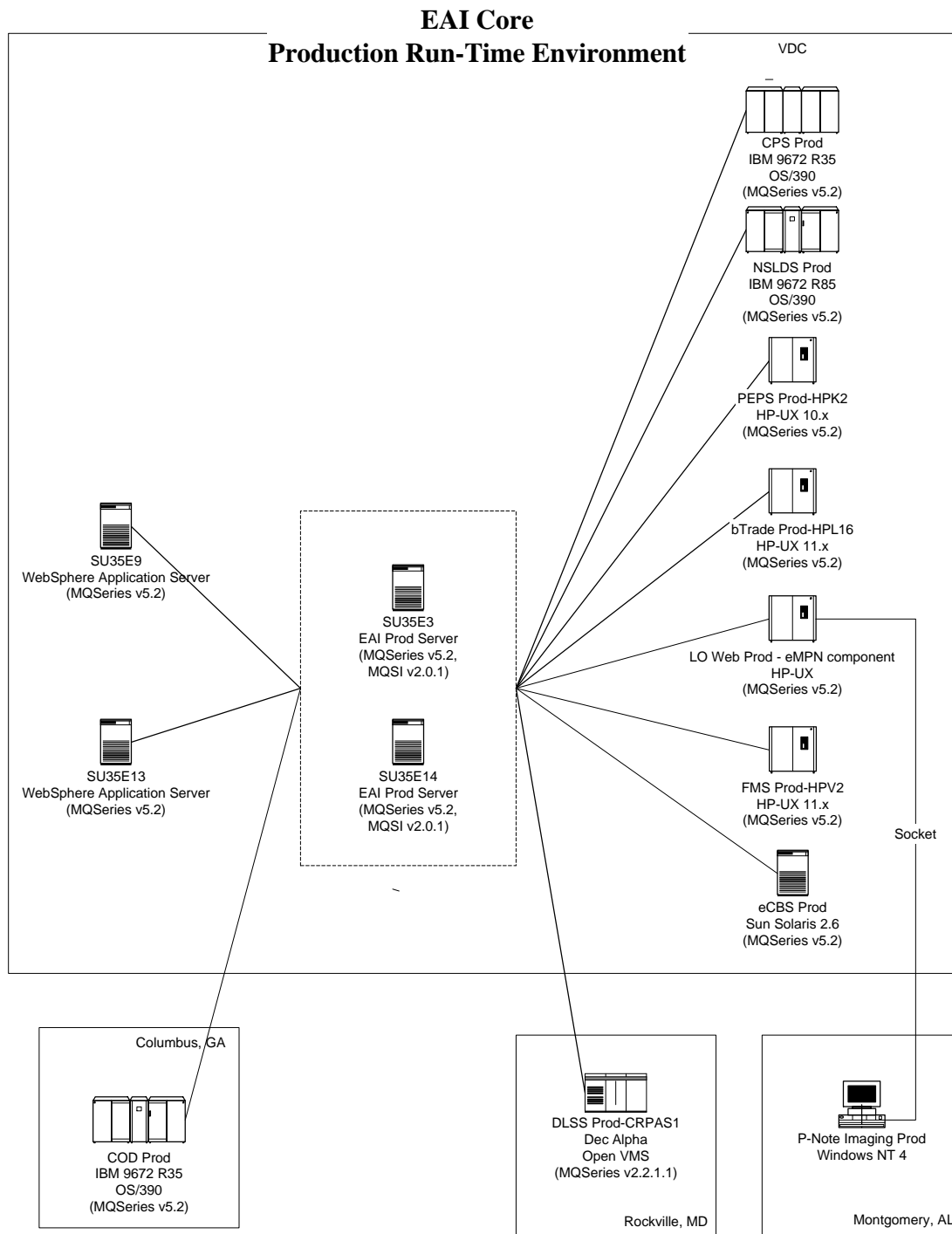




## EAI BUS Architecture Overview (Production)







Last Updated 9/19/2001





### 3 Support Areas

During the first quarter of FY02, the EAI team provided technical support to SFA in the following areas:

- EAI Core Services
- Development Integration Services
- Build and Test of Adapters and Components
- Software Installation Report
- Communication

The following sections describe the specific tasks the EAI team performed in these support areas.

#### 3.1 EAI Core Services

EAI Core Services includes the acquisition and installation of new infrastructure products, upgrades to existing products, and development of reusable practices for naming and programming standards.

##### 3.1.1 Infrastructure

The EAI Core Architecture infrastructure is being enhanced with the implementation and validation of additional products. Since November 1st, we have added MQ-MON to the architecture. MQ-MON is CSC's MQSeries monitoring tool. It monitors MQSeries queue conditions and generates alerts when it detects errors. We are also evaluating Transaction Vision, a message tracing and MQ monitoring tool. This tool can extend our monitoring capability to include MQSI as well as MQSeries and will expedite the resolution of any problems we experience with MQ.

##### 3.1.2 Upgrades

Upgrades of the EAI infrastructure and operating systems are being performed to continue vendor support and to obtain enhancements provided by new releases.

CSDs (patches to MQSeries and MQSI) have been applied in the Development and Test environments. The CSD's migration into Production is pending further testing.

DLSS was not running MQSeries with the amount of memory IBM had recommended. As a result, IBM recommended that patches be applied to the OpenVMS operating system. The additional memory has been ordered. Upon its arrival, we will install it, apply the patches, and change the memory kernel parameters.



### **3.1.3 Reusable Practices**

Reusable practices are being updated to provide application teams with a guide for using the services provided by the EAI Core Architecture. During this quarter, the EAI Common Logging Component was enhanced to provide support for use in multi-threaded applications. In addition, a bug in the component was detected and fixed.

## **3.2 Development Integration Services**

This task provides guidance and support to application teams utilizing the capabilities provided by the EAI Core Architecture.

### **3.2.1 Program Architecture**

Program architecture services recommend the EAI strategy for Modernization. The EAI strategy has been communicated through the EAI Monthly Integration Meetings (described in detail below). To ensure all applications follow the same architecture guidelines, EAI has developed a generic integration work-plan outlining the necessary steps to integrate with EAI.

### **3.2.2 Business Integration Support**

Business integration support assists application teams in application interface design.

In November, requirements gathering sessions between application teams and EAI were held for eCB to PEPS and eCB to FMS. In addition, discussions are underway regarding the building of interfaces with external Federal agencies. (e.g. FMS to pay.gov--a Treasury Department/Veteran's Affairs initiative)

### **3.2.3 Technical Integration Support**

Technical integration support assists application teams in application interface design using reusable EAI components and services.

After gathering application requirements for eCB, the EAI core team assisted with the development of the interface control documents (ICD). The ICD lays the foundation for a Trading Partner Agreement, which defines the technical details between eCB & FMS and eCB & PEPS. Because of the existing PEPS & COD interface, part of the eCB & PEPS interface will be reused.

The EAI team developed interfaces for eCB to FMS and eCB to PEPS. This included the installation and configuration of Data Integrator. In addition, EAI assisted with PEPS performance testing during eCB testing.

The EAI team developed interfaces for FARS Retirement to DLSS and FMS. This includes the installation and configuration of Data Integrator on DLSS and performance testing of the file transfer from ACS to VDC.



The EAI team developed and tested interfaces between Exit Counseling and NSLDS. This involved configuration of MQSeries, as well as coordination with SFA CIO, SFA ITA, CSC and Raytheon to integrate NSLDS mainframe components and WebSphere java COOL:Gen MQSeries servlets.

The EAI team developed and tested interfaces between Ombudsman and NSLDS. This involved configuration of MQSeries, as well as extensive coordination with SFA CIO, IBM, SFA ITA, CSC and Raytheon to integrate NSLDS mainframe components and IBM-developed custom java programs.

### **3.3 Build and Test of Adapters and Components**

This report documents the status of newly acquired software. Please see the Software Installation Report included in Appendix A of this report.

#### **3.3.1 New Adapters**

New adapters will be built for additional SFA systems that have enterprise applications and data. The selection of which adapters to build will be driven by the needs of the enterprise and the overall Modernization program.

#### **3.3.2 Components**

A centralized component library containing reusable EAI components and functions is being built for application teams. The design of the components is built to support reuse across business channels.

### **3.4 Software Installation Report**

This report documents the status of newly acquired software including Data Integrator, MQSeries, MQSI. Please see the Software Installation Report included in Appendix A of this report.

### **3.5 Communication**

#### **3.5.1 Workshops**

To facilitate communication of EAI accomplishments, capabilities and services, the EAI Core team will conduct six workshops over the duration of Task Order 80.

The *EAI and COD Integration Workshop* (November 13, 2001) offered an overview of how COD integrated into the services of the EAI bus. The target audience consisted of both technical and non-technical operating partners and stakeholders who were involved in this process. The materials distributed at this workshop are included in Appendix B.



The *EAI Integration Workshop* (December 18, 2001) was an opportunity for SFA Application Teams, SFA System Owners, and Mod Partner Application Teams to learn what is required to use the capabilities provided by EAI. Topics included the step-by-step process of building adapters and interfaces to the EAI bus, benefits of EAI technology, and detailed information to help applications plan their interface projects. The materials distributed at this workshop are included in Appendix C.

### **3.5.2 EAI Monthly Integration Meetings**

These meetings are held on the first Thursday of each month to give application teams the opportunity to discuss issues and raise questions about EAI integration. In addition, the EAI Core team reports its status and other relevant information.

On December 6, 2001 the EAI Core team successfully conducted its first EAI Monthly Integration Meeting for EAI Release 3.0. The schedule and logistical information for all upcoming EAI Release 3.0 integration meetings were distributed to the application teams. Topics covered included high-level information on how to build an interface to the EAI bus, the current status of EAI, and examples of interfaces built during Release 1.0 and 2.0. The December 6, 2001 EAI Integration Monthly Meeting Presentation is included in Appendix D of this report.